

# WELCOME

Topic:

**Detection of Brain Haemorrhage on the  
Ct-SCAN image**

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Submitted To:-

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# Introduction

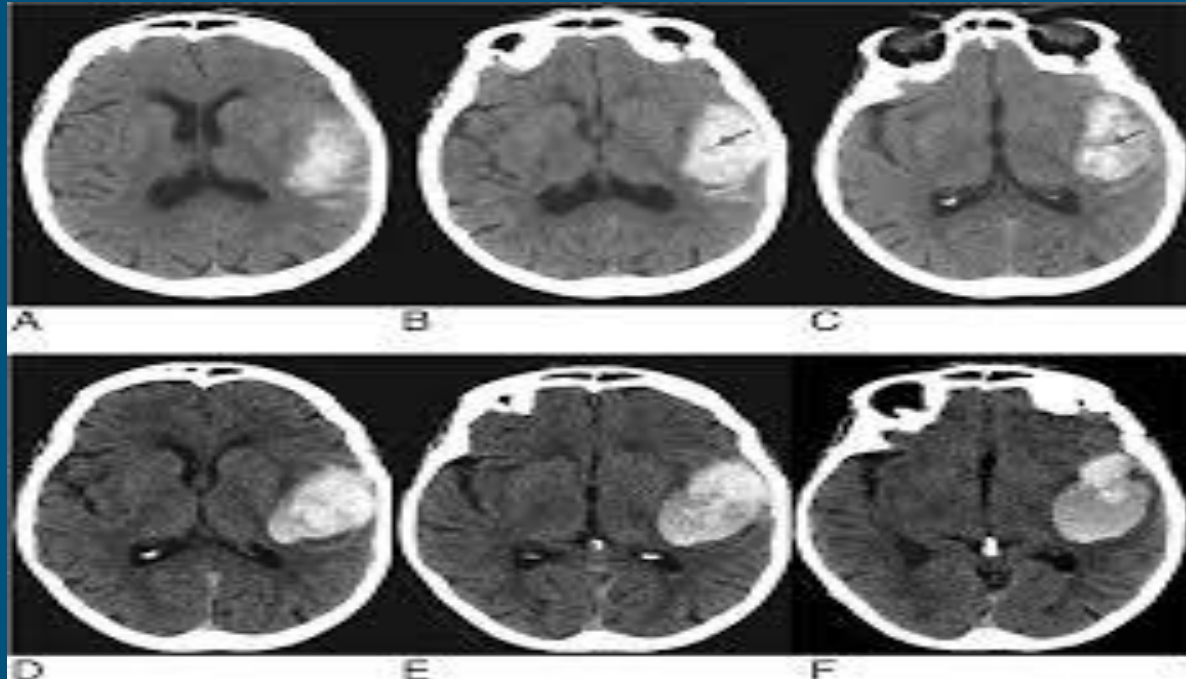
The brain injury is one of the most causes that cause the death of the man. Haemorrhage in the brain can be caused by two things namely trauma and non-trauma. Clash of hardware in the head because of trauma or accident can cause bleeding in the thorax the head or in the brain.

This bleeding can occur because of the outbreak of the blood vessels in the brain which culminated into haemorrhagic stroke or stroke due to bleeding.

In CT technology Scan there are some weakness on is such as the emergence of artefact (image that should not be there but recorded). This usually arise because patients move during the recording.

To overcome some of the weakness of the CT Scan needed innovations needed to help law enforcement diagnosis image CT. The development of science have digital image processing allows the computer to detect any traumatic brain injury or bleeding of the brain by searching for the features that are often present on the brain. The specific features that have been obtained can be made training data on the machine learning so that later the system is able to determine the type of injury based on its characteristics and extensive calculations and the volume of the brain bleeding area.

# CT Scan Images of Brain

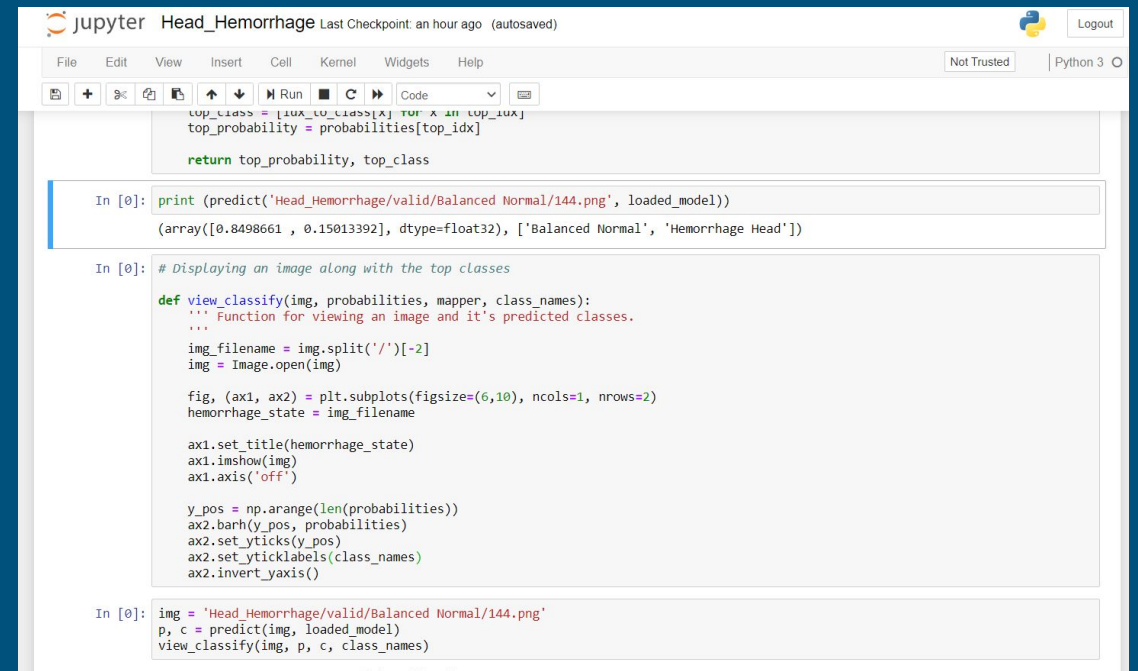
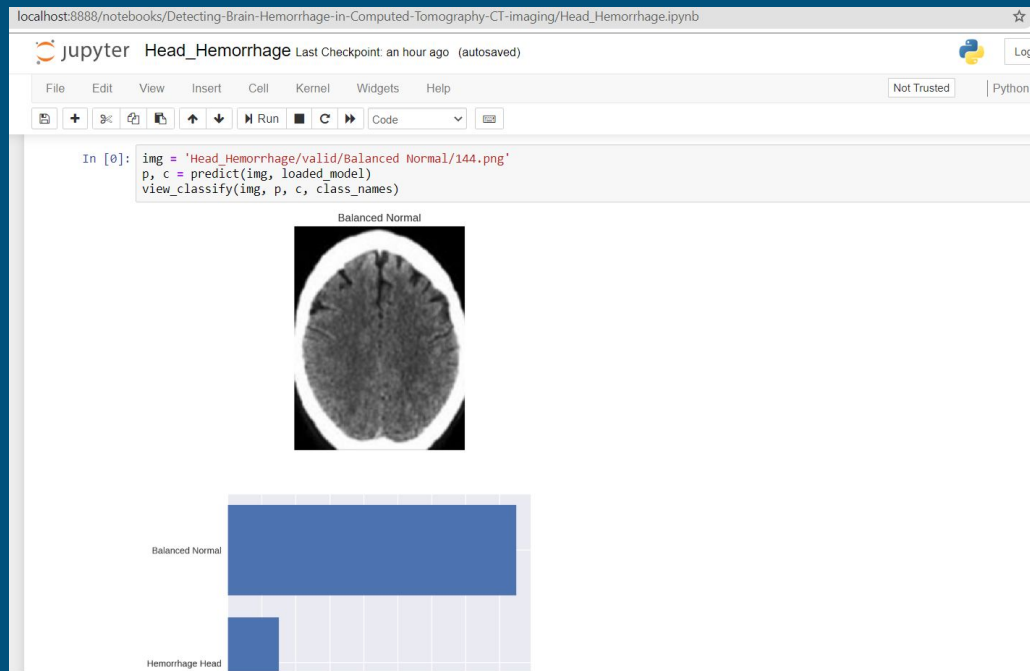


The white areas within the brain show places where bleeding is taking place.

# Technology Used and Work flow

1. Initially used 200 image samples in which 100 samples had haemorrhage & remaining 100 samples had normal brain condition.
2. Used Deep Learning library PyTorch for Data Augmentation.
3. Deep Learning applied in healthcare can contribute to saving time between medical imaging, diagnosis and beginning treatment. Automated diagnosis can be done within seconds.
4. By augmenting dataset, you can achieve excellent results with a small amount of data. We researched about data augmentations used specifically for medical imaging and it happens that when you add contrast to the images, model achieves a better accuracy. A variety of augmentation strategies can be used to get better results.
5. Used Pre-trained model Resnet-152

# Results





**Thank You**